

10/534894

JG14 RECEIVED 13 MAY 2005

Docket: 186660/US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Xiangyin Kong	
International		
Appln. No.:	PCT/CN2003/000956	
International		
Filing Date	13 November 2003 (13.11.2003)	Examiner: Unknown
	METHOD OF DIAGNOSING AND TREATING	
	BALDNESS USING HUMAN AND MOUSE	
	RHOR GENE AND CODED PRODUCT	
Title:	THEREOF	Group Art Unit: Unknown

COMMUNICATION UNDER 37 C.F.R. § 1.821

Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

A paper copy of the SEQUENCE LISTING, to conform the above-identified application to the requirements of 37 C.F.R. §§ 1.821 through 1.825, is submitted herewith. In accordance with 37 C.F.R. § 1.821(e), a copy of the above-identified SEQUENCE LISTING in ASCII computer readable form is also enclosed herewith.

Respectfully submitted,

DORSEY & WHITNEY LLP
Customer Number 25763

Date: May 13, 2005By: 

Min (Amy) S. Xu, (Reg. No. 39,536)
Intellectual Property Department
Suite 1500, 50 South Sixth Street
Minneapolis, MN 55402-1498
(612) 752-7367

026806EX.TXT
SEQUENCE LISTING

<110> SHANGHAI INSTITUTES FOR BIOLOGICAL SCIENCES, CAS

<120> METHOD OF DIAGNOSING AND TREATING BALDNESS USING HUMAN AND MOUSE RHOR GENE
AND CODED PRODUCT THEREOF

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<150> CN 02145353.9

<151> 2002-11-13

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<170> PatentIn version 3.1

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 Pro Ser Ser Ile Asp Leu Ile His Leu Gly Ala Lys Phe Ser Pro Cys
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WO 2004/052927

SEQUENCE LISTING

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agc cgc ctg cag agc cgg aag cca ccc aac ctc tcc atc acc atc ccg	96
Ser Arg Leu Gln Ser Arg Lys Pro Pro Asn Leu Ser Ile Thr Ile Pro	
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cca cca gag agc cag gcc ccc ggc gag cag gat agc atg ctt cct gag	144
Pro Pro Glu Ser Gln Ala Pro Gly Glu Gln Asp Ser Met Leu Pro Glu	
35 40 45	
agg cgc aag aac cca gcc tac ctg aag agt gtc agc cta cag gag ccc	192
Arg Arg Lys Asn Pro Ala Tyr Leu Lys Ser Val Ser Leu Gln Glu Pro	
50 55 60	
cgg gga cga tgg cag gag ggc gca gag aag cgc ccc ggc ttc cgc cgc	240
Arg Gly Arg Trp Gln Glu Gly Ala Glu Lys Arg Pro Gly Phe Arg Arg	
65 70 75 80	
cag gcc tcc ctg tcc cag agc atc cgc aag agc aca gcc cag tgg ttt	288
Gln Ala Ser Leu Ser Gln Ser Ile Arg Lys Ser Thr Ala Gln Trp Phe	
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Gly Val Ser Gly Asp Trp Glu Gly Lys Arg Gln Asn Trp His Arg Arg	
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Ser Leu His His Cys Ser Val His Tyr Gly Arg Leu Lys Ala Ser Cys	
115 120 125	
cag aga gaa ctg gag ctg ccc agc cag gag gtg cca tcc ttc cag ggc	432
Gln Arg Glu Leu Glu Leu Pro Ser Gln Glu Val Pro Ser Phe Gln Gly	
130 135 140	
act gag tct cca aaa ccg tgc aag atg ccc aag att gtg gat cca ctg	480
Thr Glu Ser Pro Lys Pro Cys Lys Met Pro Lys Ile Val Asp Pro Leu	
145 150 155 160	
gct cgg ggt agg gcc ttc cgc cat cca gat gag gtg gac cgg cct cac	528
Ala Arg Gly Arg Ala Phe Arg His Pro Asp Glu Val Asp Arg Pro His	

	165	170	175	
gct gcc cac cca cct ctg act cca ggg gtc ctg tct ctc aca tcc ttc				576
Ala Ala His Pro Pro Leu Thr Pro Gly Val Leu Ser Leu Thr Ser Phe				
	180	185	190	
acc agt gtc cgc tct ggc tac tcc cat ctg ccc cgc cgc aag agg ata				624
Thr Ser Val Arg Ser Gly Tyr Ser His Leu Pro Arg Arg Lys Arg Ile				
	195	200	205	
tct gtt gcc cat atg agc ttt cag gca gcc gcc ctc ctc aag ggg				672
Ser Val Ala His Met Ser Phe Gln Ala Ala Ala Leu Leu Lys Gly				
	210	215	220	
cgt tcc gtg cta gat gcg act ggg cag cgg tgc cgg cat gtc aaa cgc				720
Arg Ser Val Leu Asp Ala Thr Gly Gln Arg Cys Arg His Val Lys Arg				
	225	230	235	240
agc ttc gct tac ccc agc ttc ctg gag gag gat gct gtc gat gga gct				768
Ser Phe Ala Tyr Pro Ser Phe Leu Glu Glu Asp Ala Val Asp Gly Ala				
	245	250	255	
gac acc ttc gac tcc tcc ttt ttt agt aag gaa gaa atg agc tcc atg				816
Asp Thr Phe Asp Ser Ser Phe Phe Ser Lys Glu Glu Met Ser Ser Met				
	260	265	270	
cct gac gat gtc ttt gag tcc ccc cca ctc tct gcc agc tac ttc cga				864
Pro Asp Asp Val Phe Glu Ser Pro Pro Leu Ser Ala Ser Tyr Phe Arg				
	275	280	285	
ggg gtc cca cac tct gcc tcc ccg gtc tcc ccg gat gga gtg cac atc				912
Gly Val Pro His Ser Ala Ser Pro Val Ser Pro Asp Gly Val His Ile				
	290	295	300	
ccg cta aaa gaa tac agc ggt ggc cga gcc ctg ggt ccc ggg acc cag				960
Pro Leu Lys Glu Tyr Ser Gly Gly Arg Ala Leu Gly Pro Gly Thr Gln				
	305	310	315	320
cgt ggc aaa cgc att gcc tcc aaa gta aag cac ttt gca ttt gac cgg				1008
Arg Gly Lys Arg Ile Ala Ser Lys Val Lys His Phe Ala Phe Asp Arg				
	325	330	335	
aag aag agg cac tac ggc ctg ggt gtc gtg ggt aac tgg ctc aac cga				1056
Lys Lys Arg His Tyr Gly Leu Gly Val Val Gly Asn Trp Leu Asn Arg				
	340	345	350	
agc tat cga cgc agc atc agc agc acc gtg cag cgg cag ctg gag agc				1104
Ser Tyr Arg Arg Ser Ile Ser Ser Thr Val Gln Arg Gln Leu Glu Ser				
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ttc gat agc cac cgg ccc tac ttc acc tac tgg ctg acg ttc gtt cac				1152
Phe Asp Ser His Arg Pro Tyr Phe Thr Tyr Trp Leu Thr Phe Val His				
	370	375	380	
atc atc atc acc ttg ctg gtg atc tgc acc tat ggc atc gca cct gtg				1200
Ile Ile Ile Thr Leu Leu Val Ile Cys Thr Tyr Gly Ile Ala Pro Val				
	385	390	395	400
ggc ttt gcc cag cac gtt acc acc cag ctg gtg ctg aag aac aga ggc				1248
Gly Phe Ala Gln His Val Thr Thr Gln Leu Val Leu Lys Asn Arg Gly				
	405	410	415	
gtg tat gag agc gtg aag tac atc cag cag gag aac ttc tgg att ggc				1296
Val Tyr Glu Ser Val Lys Tyr Ile Gln Gln Glu Asn Phe Trp Ile Gly				
	420	425	430	
ccc agc tcg att gac ctc att cac ctg gga gca aag ttc tcg ccc tcg				1344
Pro Ser Ser Ile Asp Leu Ile His Leu Gly Ala Lys Phe Ser Pro Cys				
	435	440	445	
atc cgg aag gac cag caa att gag cag ctg gta cgg agg gag cgc gac				1392
Ile Arg Lys Asp Gln Gln Ile Glu Gln Leu Val Arg Arg Glu Arg Asp				
	450	455	460	
att gag cgc acc tct ggc tgc tgt gtc cag aat gac cgc tcg ggc tgc				1440
Ile Glu Arg Thr Ser Gly Cys Cys Val Gln Asn Asp Arg Ser Gly Cys				
	465	470	475	480
atc cag acc ctg aag gag gac tgc tcg gag act tta gcc acg ttc gta				1488

Ile	Gln	Thr	Leu	Lys	Lys	Asp	Cys	Ser	Glu	Thr	Leu	Ala	Thr	Phe	Val		
				485					490					495			
aag	tgg	cag	aat	gat	act	ggg	ccc	tca	gac	aag	tct	gac	ctg	agc	cag	1536	
Lys	Trp	Gln	Asn	Asp	Thr	Gly	Pro	Ser	Asp	Lys	Ser	Asp	Leu	Ser	Gln		
			500					505					510				
aag	cag	cca	tcg	gcg	gtt	gtg	tgc	cac	caa	gac	ccc	agg	acc	tgt	gaa	1584	
Lys	Gln	Pro	Ser	Ala	Val	Val	Cys	His	Gln	Asp	Pro	Arg	Thr	Cys	Glu		
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gag	cct	gcc	tcc	agt	ggg	gcc	cac	atc	tgg	cct	gat	gac	att	acc	aag	1632	
Glu	Pro	Ala	Ser	Ser	Gly	Ala	His	Ile	Trp	Pro	Asp	Asp	Ile	Thr	Lys		
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tgg	ccg	atc	tgc	aca	gag	cag	gct	cag	agc	aac	cac	acg	ggc	ttg	ttg	1680	
Trp	Pro	Ile	Cys	Thr	Glu	Gln	Ala	Gln	Ser	Asn	His	Thr	Gly	Leu	Leu		
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His	Ile	Asp	Cys	Lys	Ile	Lys	Gly	Arg	Pro	Cys	Cys	Ile	Gly	Thr	Lys		
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ggc	agc	tgc	gag	atc	acc	act	cgg	gag	tac	tgt	gag	ttc	atg	cat	ggc	1776	
Gly	Ser	Cys	Glu	Ile	Thr	Thr	Arg	Glu	Tyr	Cys	Glu	Phe	Met	His	Gly		
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tat	ttc	cat	gaa	gac	gcg	acg	ctg	tgt	tcc	cag	gtg	cac	tgt	tta	gac	1824	
Tyr	Phe	His	Glu	Asp	Ala	Thr	Leu	Cys	Ser	Gln	Val	His	Cys	Leu	Asp		
			595				600				605						
aag	gtg	tgt	ggg	ctc	ctg	cct	ttc	ctc	aac	cct	gag	gtc	cct	gac	cag	1872	
Lys	Val	Cys	Gly	Leu	Leu	Pro	Phe	Leu	Asn	Pro	Glu	Val	Pro	Asp	Gln		
			610			615					620						
ttc	tac	cgg	atc	tgg	ctg	tct	tta	ttc	ctg	cat	gct	ggc	ata	gtg	cac	1920	
Phe	Tyr	Arg	Ile	Trp	Leu	Ser	Leu	Phe	Leu	His	Ala	Gly	Ile	Val	His		
			625			630				635			640				
tgc	ctt	gtg	tct	gtg	gtc	ttc	caa	atg	acc	atc	ctg	agg	gac	cta	gag	1968	
Cys	Leu	Val	Ser	Val	Val	Phe	Gln	Met	Thr	Ile	Leu	Arg	Asp	Leu	Glu		
			645					650				655					
aag	ctg	gcc	ggc	tgg	cac	cgc	atc	tcc	atc	atc	ttc	atc	ctt	agt	ggc	2016	
Lys	Leu	Ala	Gly	Trp	His	Arg	Ile	Ser	Ile	Ile	Phe	Ile	Leu	Ser	Gly		
			660					665				670					
att	aca	ggc	aac	ctg	gcc	agc	gcc	atc	ttc	ctc	ccc	tac	cgg	gca	gag	2064	
Ile	Thr	Gly	Asn	Leu	Ala	Ser	Ala	Ile	Phe	Leu	Pro	Tyr	Arg	Ala	Glu		
			675				680					685					
gtg	ggc	cca	gcc	ggg	tcg	cag	ttc	ggc	ctc	ctc	gcc	tgc	ctc	ttc	gtg	2112	
Val	Gly	Pro	Ala	Gly	Ser	Gln	Phe	Gly	Leu	Leu	Ala	Cys	Leu	Phe	Val		
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gag	ctg	ttc	cag	agc	tgg	cag	ctg	ttg	gag	cgg	ccg	tgg	aag	gcc	ttc	2160	
Glu	Leu	Phe	Gln	Ser	Trp	Gln	Leu	Leu	Glu	Arg	Pro	Trp	Lys	Ala	Phe		
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Phe	Asn	Leu	Ser	Ala	Ile	Val	Leu	Phe	Leu	Phe	Ile	Cys	Gly	Leu	Leu		
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ccc	tgg	ata	gac	aac	atc	gcc	cac	atc	ttc	ggg	ttc	ctc	agc	ggc	atg	2256	
Pro	Trp	Ile	Asp	Asn	Ile	Ala	His	Ile	Phe	Gly	Phe	Leu	Ser	Gly	Met		
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ctt	ctg	gcc	ttc	gcc	ttc	ctg	cct	tac	att	acc	ttc	ggc	acc	agc	gac	2304	
Leu	Leu	Ala	Phe	Ala	Phe	Leu	Pro	Tyr	Ile	Thr	Phe	Gly	Thr	Ser	Asp		
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aag	tac	cgc	aag	cga	gcc	ctc	atc	ctc	gtg	tcg	ctg	ctg	gtc	ttt	gct	2352	
Lys	Tyr	Arg	Lys	Arg	Ala	Leu	Ile	Leu	Val	Ser	Leu	Leu	Val	Phe	Ala		
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ggg	ctc	ttt	gct	tcc	ctg	gtg	ctg	tgg	ctg	tac	atc	tac	ccc	atc	aac	2400	
Gly	Leu	Phe	Ala	Ser	Leu	Val	Leu	Trp	Leu	Tyr	Ile	Tyr	Pro	Ile	Asn		
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tgg ccc tgg atc gag tac ctc acc tgc ttt ccc ttc acc agc cgc ttc 2448
 Trp Pro Trp Ile Glu Tyr Leu Thr Cys Phe Pro Phe Thr Ser Arg Phe
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 tgt gag aag tac gag cta gac cag gtg cta cac taa 2484
 Cys Glu Lys Tyr Glu Leu Asp Gln Val Leu His
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 35 40 45
 Arg Arg Lys Asn Pro Ala Tyr Leu Lys Ser Val Ser Leu Gln Glu Pro
 50 55 60
 Arg Gly Arg Trp Gln Glu Gly Ala Glu Lys Arg Pro Gly Phe Arg Arg
 65 70 75 80
 Gln Ala Ser Leu Ser Gln Ser Ile Arg Lys Ser Thr Ala Gln Trp Phe
 85 90 95
 Gly Val Ser Gly Asp Trp Glu Gly Lys Arg Gln Asn Trp His Arg Arg
 100 105 110
 Ser Leu His His Cys Ser Val His Tyr Gly Arg Leu Lys Ala Ser Cys
 115 120 125
 Gln Arg Glu Leu Glu Leu Pro Ser Gln Glu Val Pro Ser Phe Gln Gly
 130 135 140
 Thr Glu Ser Pro Lys Pro Cys Lys Met Pro Lys Ile Val Asp Pro Leu
 145 150 155 160
 Ala Arg Gly Arg Ala Phe Arg His Pro Asp Glu Val Asp Arg Pro His
 165 170 175
 Ala Ala His Pro Pro Leu Thr Pro Gly Val Leu Ser Leu Thr Ser Phe
 180 185 190
 Thr Ser Val Arg Ser Gly Tyr Ser His Leu Pro Arg Arg Lys Arg Ile
 195 200 205
 Ser Val Ala His Met Ser Phe Gln Ala Ala Ala Leu Leu Lys Gly
 210 215 220
 Arg Ser Val Leu Asp Ala Thr Gly Gln Arg Cys Arg His Val Lys Arg
 225 230 235 240
 Ser Phe Ala Tyr Pro Ser Phe Leu Glu Glu Asp Ala Val Asp Gly Ala
 245 250 255
 Asp Thr Phe Asp Ser Ser Phe Phe Ser Lys Glu Glu Met Ser Ser Met
 260 265 270
 Pro Asp Asp Val Phe Glu Ser Pro Pro Leu Ser Ala Ser Tyr Phe Arg
 275 280 285
 Gly Val Pro His Ser Ala Ser Pro Val Ser Pro Asp Gly Val His Ile
 290 295 300
 Pro Leu Lys Glu Tyr Ser Gly Gly Arg Ala Leu Gly Pro Gly Thr Gln
 305 310 315 320
 Arg Gly Lys Arg Ile Ala Ser Lys Val Lys His Phe Ala Phe Asp Arg
 325 330 335
 Lys Lys Arg His Tyr Gly Leu Gly Val Gly Asn Trp Leu Asn Arg
 340 345 350
 Ser Tyr Arg Arg Ser Ile Ser Ser Thr Val Gln Arg Gln Leu Glu Ser

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Phe Asp Ser His Arg Pro Tyr Phe Thr Tyr Trp Leu Thr Phe Val His
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Gly Phe Ala Gln His Val Thr Thr Gln Leu Val Leu Lys Asn Arg Gly
      405              410              415
Val Tyr Glu Ser Val Lys Tyr Ile Gln Gln Glu Asn Phe Trp Ile Gly
      420              425              430
Pro Ser Ser Ile Asp Leu Ile His Leu Gly Ala Lys Phe Ser Pro Cys
      435              440              445
Ile Arg Lys Asp Gln Gln Ile Glu Gln Leu Val Arg Arg Glu Arg Asp
      450              455              460
Ile Glu Arg Thr Ser Gly Cys Cys Val Gln Asn Asp Arg Ser Gly Cys
      465              470              475              480
Ile Gln Thr Leu Lys Lys Asp Cys Ser Glu Thr Leu Ala Thr Phe Val
      485              490              495
Lys Trp Gln Asn Asp Thr Gly Pro Ser Asp Lys Ser Asp Leu Ser Gln
      500              505              510
Lys Gln Pro Ser Ala Val Val Cys His Gln Asp Pro Arg Thr Cys Glu
      515              520              525
Glu Pro Ala Ser Ser Gly Ala His Ile Trp Pro Asp Asp Ile Thr Lys
      530              535              540
Trp Pro Ile Cys Thr Glu Gln Ala Gln Ser Asn His Thr Gly Leu Leu
      545              550              555              560
His Ile Asp Cys Lys Ile Lys Gly Arg Pro Cys Cys Ile Gly Thr Lys
      565              570              575
Gly Ser Cys Glu Ile Thr Thr Arg Glu Tyr Cys Glu Phe Met His Gly
      580              585              590
Tyr Phe His Glu Asp Ala Thr Leu Cys Ser Gln Val His Cys Leu Asp
      595              600              605
Lys Val Cys Gly Leu Leu Pro Phe Leu Asn Pro Glu Val Pro Asp Gln
      610              615              620
Phe Tyr Arg Ile Trp Leu Ser Leu Phe Leu His Ala Gly Ile Val His
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Cys Leu Val Ser Val Val Phe Gln Met Thr Ile Leu Arg Asp Leu Glu
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Lys Leu Ala Gly Trp His Arg Ile Ser Ile Ile Phe Ile Leu Ser Gly
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Ile Thr Gly Asn Leu Ala Ser Ala Ile Phe Leu Pro Tyr Arg Ala Glu
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Val Gly Pro Ala Gly Ser Gln Phe Gly Leu Leu Ala Cys Leu Phe Val
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Glu Leu Phe Gln Ser Trp Gln Leu Leu Glu Arg Pro Trp Lys Ala Phe
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Phe Asn Leu Ser Ala Ile Val Leu Phe Leu Phe Ile Cys Gly Leu Leu
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Pro Trp Ile Asp Asn Ile Ala His Ile Phe Gly Phe Leu Ser Gly Met
      740              745              750
Leu Leu Ala Phe Ala Phe Leu Pro Tyr Ile Thr Phe Gly Thr Ser Asp
      755              760              765
Lys Tyr Arg Lys Arg Ala Leu Ile Leu Val Ser Leu Leu Val Phe Ala
      770              775              780
Gly Leu Phe Ala Ser Leu Val Leu Trp Leu Tyr Ile Tyr Pro Ile Asn
      785              790              795              800
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